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| 10/565,000 | 06/09/2006 | Xiaorong You | BHD-4676-957 | 6123 |
| 23117 7590 02/02/2010 NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203 | | | | |
| EXAMINER | | | | |
| REDDICK, MARIE L | | | | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/565,000

Applicant(s)

YOU, XIAORONG

Examiner

MARIE REDDICK

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01/18/06/06/09/06/10/09/09.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 18 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 19 is/are allowed.
- 6) ☒ Claim(s) 1-17 and 20-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/06)
Paper No(s)/Mail Date 01/18/06.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application.
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I (claims 1-17 and 19-24) in the reply filed on 10/09/09 is acknowledged. The traversal is on the ground(s) that it would not be an undue burden for the Examiner to examine just one additional claim. This is not found persuasive because it is urged and maintained that the restriction is deemed proper as per reasons of record (07/10/09). Moreover, contrary to Applicant's opinion, the inventions are classified in two different classes and the search for the Group II invention is not required for the Group I invention. The requirement is still deemed proper and is therefore made FINAL. Accordingly, claim 18 is withdrawn from consideration by the Examiner as per having been drawn to a non-elected invention.

Information Disclosure Statement

2. The information disclosure statement filed 01/18/06 has been considered by the Examiner.

Specification

3. The use of numerous trademarks such as Thixatrol, Thixcin, etc. (at least page 10) have been noted in this application. They should be capitalized wherever they appear and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 7, 8, 11, 12, 14-17 and 20-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A) The recited "Thixcin R, Thixatrol 1, Thixatrol GST, Thixatrol ST...." per claims 7 & 8 and "Modaflow 2100" per claim 11 constitute indefinite subject matter as per the use of trademarks in a claim is not permitted.

B) The recited "wherein the composition retrieves the viscosity" per claim 12 constitutes indefinite subject matter as per the metes and bounds of said phrase engender indeterminacy in scope.

C) The recited "between 30 and 90 wt %" per claim 14, "between 5 and 50 wt % per claim 15 and the recited contents per claim 16 constitute indefinite subject matter as per the entity that said contents are based on is not readily ascertainable, i.e., total radiation curable composition or other.

D) The recited "one or more selected from photosensitizer consisting of....." per claim 24 constitutes indefinite subject matter as per it not being readily ascertainable if the "one or more" is intended to qualify only the photosensitizer consisting of amine compounds or the remainder or the recited compounds also.

E) The recited "such as" per claim 24 constitutes indefinite subject matter as per it not being readily ascertainable as to if or how said objectionable phrase further limits the claims.

Claim Rejections - 35 USC § 102/103

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-6, 9 and 12-15 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious Lawton et al (US 2002/0106584).

Lawton et al teach radiation curable compositions governed by a yield stress of 28-40 N/mm² defined basically as containing i) at least one radiation curable component, ii) a filler, iii) at least one photoinitiator, iv) a thixotropic agent, v) a flow aid (leveling agent), vi) 10-39 % by weight of a hydroxyl-containing material and vii) other conventional additives wherein, the at least one radiation curable component includes cationically curable compounds (epoxy compounds) and free-radically curable compounds (10-20 % by weight of acrylic materials such as poly(meth)acrylates having functionality of greater than 2 and an acrylate of bisphenol A diepoxide), the at least one photoinitiator includes a cationic photoinitiator and a free-radical initiator, the thixotropic agent includes polyvinylpyrrolidone and the other conventional additives include sensitizers, pigments, wetting agents, surfactants (Abstract, paragraphs [0007]-[0018], [0030]-[0067], [0075]-[0113] and the Runs of Lawton et al and claims 1-6, 9 and 12-15). Lawton et al therefore anticipate the instantly claimed invention with the understanding that the additive genus is sufficiently small enough to engender

anticipation of the claimed filler species, accord In re Schaumann, 572 F.2d 312, 316, 197 USPQ 5, 9 (CCPA 1978). Moreover, the hydroxyl-containing materials include compounds sufficient to meet the “filler” component (paragraph [0072]). As to the “viscosity reducible” limitation, the Examiner has a reasonable basis for believing that this limitation may be met by the composition of Lawton et al since the radiation curable composition of Lawton et al is essentially the same as the claimed viscosity reducible radiation curable composition. It is further believed that the “viscosity”, “filler settling speed”, “thixotropic index” and “viscosity retrieval” limitations, if not taught, may very well be met by the radiation curable composition of Lawton et al since the composition of Lawton et al is essentially the same as the claimed composition and in the absence of the USPTO having at its disposal the tools and facilities deemed necessary to make physical determinations of this sort. WHEN THE STRUCTURE RECITED IN THE REFERENCE IS SUBSTANTIALLY IDENTICAL TO THAT OF THE CLAIMS, CLAIMED PROPERTIES OR FUNCTIONS ARE PRESUMED TO BE INHERENT: Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established. In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). “When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not.” In re Spada, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). Therefore, the prima facie case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. In re Best, 562 F.2d at 1255, 195 USPQ at 433.

Even if it turns out that the Examiner has somehow missed the boat and the claimed invention is not anticipated, it would have been obvious to the skilled artisan, at the time of the invention, to extrapolate, from Lawton et al, the precisely defined viscosity reducible radiation curable composition as per such having been within the purview of the general disclosure of Lawton et al and with a reasonable expectation of success.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. Claims 7, 8, 10, 11, 16, 17 and 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lawton et al (US 2002/0106584).

Lawton et al is as discussed supra and as applied to claims 1-6, 9 and 12-15. Further, Lawton et al differ basically from the claimed invention as per the non-express disclosure of an embodiment directed to i) the specifically recited thixotropic agent (7 & 8), the specifically recited flow aid (leveling agent, 10 & 11) and the specifically recited contents governing the components of the viscosity reducible radiation curable composition (16). However, as to the

specific thixotropic agent, the interchangeability of one well know thixotropic agent for another is a matter of choice to one having ordinary skill in the art and would therefore have been obvious at the time of applicants invention and with a reasonable expectation of obtaining equivalent results, absent some evidence of unusual or unexpected results. As to the content of compositional ingredients, one having ordinary skill in the art, at the time of the invention, would have found it obvious to modify Lawton et al by optimizing the radiation curable composition of Lawton et al, in terms of content of compositional components as suggested (paragraphs [0008]-[0018], [0108]-[0109] and the claims of Lawton et al), such involving only routine experimentation, without undue burden and with a reasonable expectation of success. Optimization Within Prior Art Conditions or Through Routine Experimentation: Generally, differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

Claim Rejections - 35 USC § 102/103

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

14. Claims 1-6, 9 and 12-15 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Melisarís et al (US 6,099,787).

Melisaris et al teach radiation curable compositions defined basically as containing i) at least one radiation curable component, ii) a filler, iii) at least one photoinitiator, iv) a thixotropic agent, v) a flow-control agent, and vi) other conventional additives wherein, the at least one radiation curable component includes cationically curable compounds (epoxy compounds) and free-radically curable compounds (mono-, di- and poly(meth)acrylates having functionality up to 9), the filler includes untreated and treated silica compounds, the at least one photoinitiator includes a cationic photoinitiator and a free-radical initiator, the thixotropic agent includes Aerosil R-972 (fumed silica) and the other conventional additives include stabilizers, pigments, wetting agents, surfactants, etc. (Abstract, col. 1, lines 8-18, cols. 3-7, 9-19, the Runs, TABLES 1 and 2 and claims of Melisarís et al and claims 1-6, 9 and 12-15). Melisarís et al therefore anticipate the instantly claimed invention.

As to the "viscosity reducible" limitation, the Examiner has a reasonable basis for believing that this limitation may be met by the composition of Melisarís et al since the radiation curable composition is essentially the same as the claimed viscosity reducible radiation curable composition. It is further believed that the "yield stress value", "viscosity", "filler settling speed", "thixotropic index" and "viscosity retrieval" limitations, if not taught, may very well be met by the radiation curable composition of Melisarís et al since the composition of Melisarís et al is essentially the same as the claimed composition and in the absence of the USPTO having at its disposal the tools and facilities deemed necessary to make physical

determinations of this sort. WHEN THE STRUCTURE RECITED IN THE REFERENCE IS SUBSTANTIALLY IDENTICAL TO THAT OF THE CLAIMS, CLAIMED PROPERTIES OR FUNCTIONS ARE PRESUMED TO BE INHERENT: Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established. In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). "When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not." In re Spada, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). Therefore, the prima facie case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. In re Best, 562 F.2d at 1255, 195 USPQ at 433.

Even if it turns out that the Examiner has somehow missed the boat and the claimed invention is not anticipated, it would have been obvious to the skilled artisan, at the time of the invention, to extrapolate, from Melisaris et al et al, the precisely defined viscosity reducible radiation curable composition as per such having been within the purview of the general disclosure of Melisaris et al and with a reasonable expectation of success.

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

17. Claims 7, 8, 10, 11, 16, 17 and 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Melisaris et al (US 6,099,787).

Melisaris et al is as discussed supra and as applied to claims 1-6, 9 and 12-15. Further, Melisaris et al differ basically from the claimed invention as per the non-express disclosure of an embodiment directed to i) the specifically recited thixotropic agent (7 & 8), the specifically recited flow aid (10 & 11) and the specifically recited contents governing the components of the viscosity reducible radiation curable composition (16). However, as to the specific thixotropic agent, the interchangeability of one well know thixotropic agent for another is a matter of choice to one having ordinary skill in the art and would therefore have been obvious at the time of applicants invention and with a reasonable expectation of obtaining equivalent results, absent some evidence of unusual or unexpected results. As to the content of compositional ingredients, one having ordinary skill in the art, at the time of the invention, would have found it obvious to modify Melisaris et al by optimizing the radiation curable composition of Melisaris et al, in terms of content of compositional components as suggested (col. 9, lines 66-67, col. 10, lines 1-2, col. 11, lines 45-55, col. 12, lines 56-67 and TABLES 1 & 2 and the claims of Melisaris et al), such involving only routine experimentation, without undue burden and with a reasonable expectation of success. Optimization Within Prior Art Conditions

or Through Routine Experimentation: Generally, differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

18. US Patents 5,474,719 to Fan et al and 6,287,748 to Lawton are cited as of interest in teaching radiation curable compositions and are considered merely cumulative to the prior art *supra*.

Allowable Subject Matter

19. Claims 19 and 20 are deemed allowable over the prior art of record as per said art neither anticipating nor rendering obvious the precisely defined ethyl acrylate-2-ethylhexyl acrylate copolymer-containing viscosity-reducible radiation curable composition. One having ordinary skill in the art would not have been endowed with any motivation to extrapolate, from any of the prior art of record, the precisely defined viscosity reducible radiation curable composition with any reasonable expectation of success.

Conclusion

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARIE REDDICK whose telephone number is 2-5816. The examiner can normally be reached on 6:30 am to 3:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, DAVID WU can be reached on 2-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Marie Reddick
Patent Examiner
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/MR/
01/27/10

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